

USSR

UDC 534.222.2

ANDREYEV, Z. P., KOGDOV, N. M., Moscow

"Internal Separation in Thin Shells Upon Detonation of Explosive Layer on the Surface"

Novosibirsk, Fizika Goreniya i Vzryva, No. 4, Dec. 70, p. 532-539.

Abstract: The problem is solved of determining the thickness and velocity of the layer split off from the internal surface of a shell when a pulse load is applied to the outer surface of the shell by detonation of an explosive layer. The detonation wave is assumed normal and the standard laws of motion of a detonation wave and explosive products behind the wave are used. The problem is solved in its linear statement (without considering lateral loadings) and in the acoustical approximation using an exponential equation of state.

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USSR

UDC: 621.385.6:621.3.035.44

KOGEN-DALIN, V. V., KUZNETSOV, E. V., CHERNOVA, I. M., SHATUNOVSKIY, V. L.

"Electrolytic Bath Simulation of Complex Magnetic Systems With Permanent Magnets for Microwave Devices"

Elektron. tekhnika. Nauchno-tekhn. sb. Elektron. SVCh (Electronic Technology, Scientific and Technical Collection. SHF Electronics), 1971, vyp. 2, pp 43-52 (from RZh-Elektronika i yeye Primeneniye, No 6, Jun 71, Abstract No 6A45)

Translation: The possibility of calculating complex magnetic systems by the method of simulation in an electrolytic bath is demonstrated by a shunt-controlled magnetic system of the "bracket" type. In the calculation on the model, account is taken of the nonlinear properties of the magnetic materials of the permanent magnet and the magnetically soft materials of the armature and shunt. Electric analogs with nonlinear properties are made up from a grid of linear controllable two-terminal networks which are tuned by a special procedure. Recommendations are given on making analog circuits of various sections of complex magnetic systems. A selected example is used to illustrate the possibilities of calculating the systems by simulation in a bath. Bibliography of five titles. Resumé.

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USSR

UDC 51:621.391

KISELEV-GUSEV, V. V., and KOGNOVITSKIY, O. S.

"Data Transmission Rate in Error-Localizing Code Systems"

Tr. ucheb. in-tov svyazi. M-vo svyazi SSSR (Works of Communications Training Institutes, Ministry of Communications USSR), 1972, vyp. 59, pp 56-62 (from RZh-Matematika, No 3, Mar 73, Abstract No 3V464 from authors' abstract)

Translation: The article considers the efficiency of the use of error-localizing codes in a system with waiting for decision signals. With the help of the theory of Markov chains a formula is obtained for the data transmission rate in such systems. The authors present quantitative evaluations of the data transmission rate when error-localizing codes are used.

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USSR

KISELEV-GUSEV, V. V., KOGNOVITSKIY, O. S.

"Rate of Information Transmission in Systems with Codes Localizing Errors"

Tr. Ucheb. In-tov Svyazi. M-vo Svyazi SSSR [Works of Teaching Institutes of Communications USSR Communications Ministry], 1972, No 59, pp 56-62
(Translated from Referativnyy Zhurnal, Kibernetika, No 3, Moscow, 1973, Abstract No 3 V464 by the authors).

Translation: The effectiveness of the application of codes localizing errors in a system with waiting for decision signals is studied. Using the theory of Markov chains, a formula is produced for the rate of transmission of information in such systems. Quantitative estimates of the information transmission rate are presented when codes which localize errors are used.

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1/2 016 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--ORGANOSILICON FINISHING FOR SYNTHETIC DIAMONDS -U-
AUTHOR--(03)-PASHCHENKO, D.D., KOGOSOV, L.P., YEMELIANOV, D.M.
COUNTRY OF INFO--USSR
SOURCE--KHIM. PROM. UKR. 1970, (1) 57-8
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--ORGANOSILICON COMPOUND, DIAMOND, ORGANOSODIUM COMPOUND,
SURFACE PROPERTY, ABRASIVE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1992/1506 STEP NO--UR/0436/70/000/001/0057/0058
CIRC ACCESSION NO--AP0112500
UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0112500

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SYNTHETIC DIAMONDS WERE TREATED WITH DIL. SOLNS. OF NA ORGANOSILICONATES $\text{RSi}(\text{OH})\text{SUB2 ONA}$ (I) (R EQUALS ME, ET, CH SUB2:CH , AND PH), THEN HEATED TO 150-200 DEGREES FOR 2 HR AND WASHED. DIAMOND ABRASIVE INSTRUMENTS WERE OBTAINED FROM SILICONIZED DIAMONDS BY USING POWD. BAKELITE AS BINDER. SILICONIZATION OF THE DIAMONDS RESULTS IN THE HYDROPHOBIZATION OF THE SURFACE AND IMPROVED ADHESION TO THE BINDER. EXPTS. WITH SILICONIZED DIAMONDS SHOWED THAT THIS TREATMENT REDUCES THE WEAR OF DIAMOND IN ABRASIVE INSTRUMENTS. THE BEST RESULTS WERE OBTAINED WITH I (R EQUALS ME), FOLLOWED BY I (R EQUALS CH SUB2:CH) AND I (R EQUALS ET). THE USE OF I (R EQUALS PH) DID NOT IMPROVE THE PROPERTIES OF THE ABRASIVE.

UNCLASSIFIED

USSR

UDC 632.951:633.11

ARESHNIKOV, B. A., KOGOSOVA, E. YA., GOROKHOVSKIY, N. A., and VOYCHUK, G. A.,
Ukrainian Scientific Research Institute of Plant Protection

"Effectiveness of Metathione Against the Stink bug [*Eurygaster*]"

Moscow, Khimiya v Sel'skom Khozyavstve, Vol 10, No 9, (119), 1973, pp 33-35

Abstract: Metathione exhibited a faster effect against bugs than chlorophos. With an elevation of air temperature the toxicity of this preparation increased, but the duration of its activity became shorter. Optimal doses of this agent have been determined to be: against the overwintered bugs -- 0.8 kg/hectare, against younger larvae -- 0.5 kg/hectare, and in case of more mature larvae -- from 0.6 to 0.8 kg/hectare. To destroy young larvae, the wheat should be treated with metathione towards the end of the blooming period, at the initial phase of the formation of caryopsis. More mature larvae can be controlled by applying the agent at the beginning of milky ripeness of the grain.

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1/2 024

UNCLASSIFIED

PROCESSING DATE--20NOV70

TITLE--PATHOLOGICAL ANATOMY OF TOXOPLASMA INDUCED ENDOPHTHALMITIS -U-

AUTHOR--(031)-KOGGY, T.F., BORISHPOLETS, V.I., KHORASANYANTADE, A.A.

COUNTRY OF INFO--USSR

SOURCE--VESTNIK OFTAL'MOLOGII, 1970, NR 3, PP 59-62

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--INFANT DISEASE, TOXOPLASMOSIS, EYE DISEASE, RETINA, CORNEA,
NECROSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--3002/1908

STEP NO--UR/0357/70/000/003/0059/0062

CIRC ACCESSION NO--AP0129257

UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--20NGV70

CIRC ACCESSION NO--AP0129257

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HISTOLOGICAL INVESTIGATIONS MADE IN AN INFANT OF 1 MONTH AND 10 DAYS WITH GENERALIZED FORM OF CONGENITAL TOXOPLASMOSIS DISCLOSED SUBACUTE PRODUCTIVE NECROTIC ENDOPTHALMITIS, PRODUCTIVE CHORIORETINITIS, NECROTIC HEMORRHAGIC RETINITIS WITH DETACHMENT AND NECROSIS OF THE RETINA, PRODUCTIVE UVEITIS, DYSTROPHIC ALTERATIONS OF THE CRYSTALLINE LENS AND CORNEA. MORPHOLOGICAL CHANGES WERE NONSPECIFIC, BEING TRANSLATED BY DIFFUSE PROLIFERATION OF ELEMENTS IN THE RETICULO HISTOCYTE SERIES, CHIEFLY OF PLASMA CELLS, AND ALSO BY MASSIVE NECROSIS AND INCREASED PERMEABILITY OF VASCULAR MEMBRANES WITH HEMORRHAGES. THE TOXOPLASMA NATURE OF ENDOPTHALMITIS WAS CONFIRMED BY DETECTION OF THE CAUSATIVE AGENT IN THE EYE AND OPTIC NERVE TISSUES. GROSS DEFORMATIONS OF THE EYEGLOBE, SUCH AS CONGENITAL PSEUDOMICROPHTHALMOS, CONGENITAL CATARACT, ETC. CAN DEVELOP AS A CONSEQUENCE OF INTRAUTERINE TOXOPLASMA INDUCED ENDOPTHALMITIS DUE TO NECROSIS AND CICATRIZATION. FACILITY: KAFEDRA PATOLOGICHESKOY ANATOMII III MOSKOVSKOGO MEDITSINSKOGO INSTITUTA IM N. I. PIRUGOVA, KAFEDRA GLAZNYKH BOLEZNEY TSENTRAL'NOGO INSTITUTA USOVERSHENSTVOVANIYA VRACHEY I MOSKOVSKAYA GLAZNAYA KLINICHESKAYA BOL'NITSA.

UNCLASSIFIED

USSR

UDC: 621.375.4(088.8)

ZAMURUYEV, A. M., KOGUT, A. I., SITNICHENKO, V. V.

"A Transistorized Multistage Power Amplifier"

USSR Author's Certificate No 235183, filed 20 Oct 66, published 10 Aug 70
(from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1D94 P)


Translation: This Author's Certificate introduces a transistorized multi-stage power amplifier with feedback circuits between the preliminary and output stages. To increase efficiency, diodes are connected in the feedback circuit with their cathodes connected to the collector of the transistor in the final stage of the amplifier, and their anodes connected to the collectors of the transistors in the amplification stages.

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USSR

UDC 537.311.33


MIKOLAYCHUK, A. G., KOGUT, A. N., and IGNATIV, M. I., L'vov State University
imeni Iv. Franko

"Electrical Properties of Germanium Telluride and Selenide Thin Films"

Tomsk, Izvestiya Vysshikh Uchebnykh Zavedeniy -- Fizika, No 7, 1970, pp 103-105

Abstract: The article describes results of the measurement of the electrical conductivity and forbidden-gap width of germanium telluride and selenide in thin films and discusses the dependence of these parameters on the structure. The results are qualitatively explained on the basis of A. I. Gubanov's theory of the electrical conductivity of amorphous semiconductors.

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1/2 018 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--PREPARATION AND STRUCTURE OF GERMANIUM TELLURIDE AND SELENIDE THIN
FILMS -U-
AUTHOR-(G2)-MIKCLAYCHUK, O.G., KOGUT, A.N. *K*
COUNTRY OF INFO--USSR
SOURCE--KRISTALLOGRAFIYA 1970, 15(2), 353-7
DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, CHEMISTRY, PHYSICS

TOPIC TAGS--SELENIDE, GERMANIUM COMPOUND, TELLURIDE, SINGLE CRYSTAL,
POTASSIUM CHLORIDE, METAL FILM, POLYCRYSTAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FILM--1995/0903

STEP NO--UR/0070/70/015/002/0353/0357

CIRC ACCESSION NO--AP0116413

UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0116413

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. GEX CRYSTALS, X EQUALS TE OR SE, WERE OBTAINED ON DIFFERENT SUBSTRATES. GETE AT 300-400DEGREESK AND GESE AT 300-500DEGREESK ON SINGLE CRYSTAL AND POLYCRYST. SUBSTRATES GAVE AMORPHOUS FILMS. THE TRANSITION TEMP. FROM AMORPHOUS TO POLYCRYST. FILMS OF THICKNESS GREATER THAN OR EQUAL TO 300 ANGSTROM IS PRACTICALLY CONST., AND INCREASED AS THE THICKNESS DECREASED. THE AMORPHOUS STATE OF FILMS SMALLER THAN 50 ANGSTROM THICK COULD NOT BE CHANGED. THE INTENSITY OF THE ELECTRON SCATTERING CURVE EXHIBITED 3 MAX. ON SINGLE CRYSTALS OF KCL AND MICA, GETE FILMS OBTAINED AT 450, 500, AND 550DEGREESK WERE ORIENTED. ON MICA THE CRYSTALS WERE MORE PERFECT THAN ON KCL.

FACILITY: L'VOV. GOS. UNIV., LVOV, USSR.

UNCLASSIFIED

USSR

UDC 632,954-099-02)-22)

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KOGUT, D. D., (Kagarlyk, Kiev Oblast)

"Acute Intoxication with Herbicides Under Agricultural Conditions"

Kiev, Vrachebnoye Delo, No 1, 1970, pp 146-147

Translation: The use of chemical means for the control of weeds and plant diseases in agriculture is increasing with each passing year. On the one hand this stimulates the intensification of agricultural production; on the other hand it requires constant medical attention and prophylactic measures for the prevention of intoxication among people.

Acute intoxication of workers engaged in weeding sugar beets occurred in Kagarlyskiy Rayon, Kiev Oblast. On the preceeding work-day the area planted in beets was treated with an ammonia mixture containing a sodium salt of 2,4-dichlorophenoxyacetic acid (2,4-D) -- a herbicide. On a warm June day, with a temperature of over 20° C women kolkhoz workers had been engaged in the thinning of sugar beets since morning, without any kind of individual protection. An odor of ammonia was perceptible in the air of the working zone.

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KOGUT, D. D., et al., Kiev, Vrachebnoye Delo, No 1, 1970, pp 146-147

An hour after the work began, the women became dizzy, developed headaches, weakness in muscles of extremities and some began to vomit.

The afflicted were taken to a feldsher point where they were given first aid: intravenous glucose, cordiamine and vitamin B, subcutaneously, dimedrol and other drugs internally, and so on. The condition of most of the workers improved, and five were hospitalized at the therapeutic department of the rayon hospital.

On arrival at the hospital, one of the patients began to complain of weakness in her feet, stiffness in the knees and talocrural joints, dizziness, pains in the cardiac region, somnolence, and periodic loss of consciousness. Pallor of skin and visible mucous membranes, muffled cardiac tones, and arterial pressure of 110/70 were noted.

Another patient complained of skin numbness on the shins, and feet, spasmodic pains in the region below the abdomen, and general weakness. Arterial pressure was 100/60 mm Hg and cardiac tones were muffled. Proteins (0.198⁰/00) were detected in the urine, and 3-5
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KOGUT, D. D., et al., Kiev, Vrachebnoye Delo, No 1, 1970, pp 146-147

lixivated erythrocytes in the visible field of the precipitate were noted. Leukocytosis in the blood was observed and the erythrocyte sedimentation reaction was accelerated to 34 mm/hr

In a third patient, in whom autonomic dystonia was initially observed, toxic diencephalitis (myoplegic form), myocardiae dystrophy, and chronic hepatocholecystitis were diagnosed.

In the two remaining patients, manifestation of an asthenoneurotic condition and arterial hypotension were noted.

These intoxications may be considered mild. The development of intoxication was due to violation of the hygienic rules of work with herbicides, according to which work in fields treated with herbicides is not permitted during the first 5-6 days, and in adjacent sections -- only three days after the application of the herbicide.

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1/2 018 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--RELATIONSHIP BETWEEN HYPERTENSIVE DISEASE AND SYMPTOMATIC
HYPERTENSION -U-
AUTHOR-(02)-GANDZHA, I.M., KOGUT, M.D. **K**

COUNTRY OF INFO--USSR

SOURCE--. VRACHEBNOYE DELO, 1970, NR 6, PP 9-15

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HYPERTENSION, URINE, ENDOCRINE SYSTEM

CCNTRCL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--3002/1905

STEP NO--UR/0475/70/000/006/0009/0015

CIRC ACCESSION NO--AP0129254

UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0129254

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DIFFERENTIAL DIAGNOSIS WAS ANALYSED BETWEEN HYPERTENSIVE DISEASE OF CENTROGENIC ORIGIN AND SYMPTOMATIC HYPERTENSION BASED ON CLINICAL, LABORATORY AND INSTRUMENTAL METHODS OF INVESTIGATION. PARTICULAR ATTENTION IS PAID TO THE URINARY EXCRETING SYSTEM AND ENDOCRINE GLANDS. IT IS EMPHASIZED THAT DISEASES OF THE LATTER ACCOMPANIED BY HYPERTENSION MAY FAVOUR THE DEVELOPMENT OF CENTROGENIC HYPERTENSIVE DISEASE IN LANG'S CONCEPT ("ESSENTIAL HYPERTENSION" IN FOREIGN LITERATURE). FACILITY: KIEVSKIY INSTITUT USOVERSHENSTVOVANIYA VRACHEV.

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USSR

UDC: 362.11:615.849.127:658.5

SIDORIK, YE. P., LAZAREV, I. R., and KOGUT, T. S., Institute of Experimental and Clinical Oncology, Kiev

"Organization of a Laser Therapy Department"

Moscow, Gigiyena Truda i Professionalnyye Zabolevaniya, No 12, Dec 70, pp 41-43

Abstract: Measures for the protection on personnel in laser therapy departments against the known harmful effects of laser radiation on vision and the mucous membranes are of paramount importance. The arrangement of the laser therapy department set up at the Kiev Scientific Research Institute of Experimental Oncology, Ministry of Public Health Ukrainian SSR, is described. A block diagram of a laser modified for clinical use is presented. All personnel working in the unit are kept under continuous medical surveillance. Closed-circuit TV is used for monitoring the patients during treatment.

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Corrosion

USSR

UDC 546.821.542.61

KOIRNLOV, I. I., GOLUBTSOVA, R. B., and SAVVATEYEVA, S. M., Institute of
~~Metallurgy~~ imeni A. A. Baykov of the Academy of Sciences USSR

"Study of Solubility of Titanium Suboxides and Metallic Titanium in Various
Chemical Media"

Moscow, Neorganicheskiye Materialy, Vol 9, No 8, Aug 73, pp 1450-1451.

Abstract: This work studies the solubility of the suboxides Ti_3O , Ti_6O and
metallic titanium in various chemical media, of interest from the standpoint
of their stability and corrosion resistance, particularly in corrosive
media. The alloys studied were prepared, annealed at 400-600° C and cooled
in air. They were then dissolved in various chemical media at room tempera-
ture. After the experiment, the insoluble powder sediment was filtered,
washed, the filtrate was evaporated down to a certain volume and the titan-
ium content was determined. A table of solubilities of suboxides and metallic
titanium in the chemical media tested is presented. Test media were H_2SO_4 ,
 HCl , HNO_3 and H_3PO_4 .

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UDC 547.963.3

KOK, I. P.

"Infectious Forms of Viral Ribonucleic Acids"

Abstract: This article is the most complete summary available at the present time of the literature on infectious RNA of viruses of bacteria, plants, and animals, including insects. With the exception of viral RNA, the survey analyzes the properties of the less studied intermediate forms of RNA, which are formed in the cells infected by viruses and which participate in the replication of RNA, the mechanism of which is being disputed.

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USSR

UDC 612.822.3.08

RAYEVA, S. N., MASLOV, P. I., and KOKAREV, A. A., Department of Memory Study, Institute of Biophysics, Academy of Sciences USSR, Pushchino on Oka, and the Institute of Neurochemistry, USSR Academy of Medical Sciences imeni Academician N. N. Burdenko, Moscow

"A Device for Following the Activity of Individual Neurons in the Deep Structures of the Human Brain"

Leningrad, Fiziologicheskiy Zhurnal SSSR imeni I. M. Sechenova, Vol 59, No 11, Nov 73, pp 1,761-1,763

Abstract: A micrometric micromanipulator has been constructed for use in human stereotaxic surgery for recording the electrical activity of individual subcortical neurons or their populations, depending on the electrode employed. A tungsten electrode 0.3 mm in diameter, tapered to 1-2 microns, and insulated with laquer was made for individual neuron recording. In essence, the instrument consisted of a cannula with a micrometer for introducing the electrodes. In addition to recording potentials, the same instrument may be used for stimulation. The instrument described has been used with success in 45 operations.
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Acc. Nr.: **AP0029764**

Ref. Code: UR 0391

PRIMARY SOURCE: Gigiyena Truda i Professional'nyye Zabolevaniya,
1970, Nr 1, pp 18-22

NATURAL IMMUNITY IN WORKERS ENGAGED IN DEPARTMENTS DEVOID
OF WINDOWS AND SKYLIGHTS

Volkova, A.P.; Kokarev, N.P.

Summary

The authors made an attempt to look into causation and mechanisms underlying the adverse effect on the workers' organism of conditions prevailing in industrial buildings without windows and skylights. With this objective in view natural immunity was studied in 204 practically healthy individuals doing work at the machine building plant. Phagocytic and bactericidal blood functions, bactericidal function of the skin, the nature of the dermal and buccal mucosa autoflora were chosen as indicators. The data thus obtained witness that specific working conditions in premises devoid of windows and skylights are conducive to the derangement of natural immunity. Most of the exami-

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ned demonstrated depression of the phagocytic and bactericidal functions of the blood, reduced biological activity of the skin (inhibition of its bactericidal properties), along with a sharp increase in the number of microbes on the buccal mucosa, especially of those belonging to pathogenic strains. Bacteriological analysis of the air disclosed that the microbial count in departments without windows and skylights was 5 times as high as in the atmosphere of ordinary industrial shops. The authors presume that the rise of the overall sick-rate should be attributed to a considerably disturbed state of natural immunity.

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19681440

Acc. Nr: **AP0034482**

Ref. Code: UR 0297

PRIMARY SOURCE: Antibiotiki, 1970, Vol 15, Nr 2, pp 168-171

EFFECT OF ERYTHROMYCIN ON RESPIRATION AND OXIDATIVE
PHOSPHORILATION IN LIVER MITOCHONDRIA OF ALBINO RATS

M. G. Kakarotseva, V. V. Fedurov

Kiev Medical Institute

The effect of erythromycin on respiration, oxidative phosphorylation and coenzyme Q levels in the liver mitochondria of rats treated with antibiotics for prolong periods of time in spring and autumn was studied. Dependence of respiration on the season was shown. Having no effect on intensity of oxygen uptake by the liver mitochondria in vivo, erythromycin decreased esterification of inorganic phosphorus which was especially evident in spring. In vitro erythromycin had no effect on the processes studied.

D. n.

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Hydrobiology

USSR

KOKAYA, A.

"Dolphins: A Thousand and One Puzzles"

Tbilisi, Zarya Vostoka, 17 Mar 73, p 4

Translation: The first dolphinarium in the republic is being built in Batumi. Here are all the necessary natural conditions for keeping dolphins in a reserve: the sea, the warm southern air, and an abundance of fresh fish for feeding. A basin with an area of about 600 square meters around which an amphitheater seating 500 is being built will be the home for the puzzling marine creatures.

The main basin is connected by channels to two small basins intended for the temporary isolation of newcomers. A constant water temperature will be maintained in the basins. The influx of seawater will be accomplished by an underground pipe. Illuminators made of organic glass have been installed in the concrete walls of the basin for the observation and photographing of the dolphins.

Associates of the division of marine mammals of the Georgian Branch of the All-Union Scientific Research Institute of the Fishing Industry and Oceanography will carry out scientific work with the dolphins. The division's staff is small: it consists of senior scientific associate Dmitriy Morozov and two laboratory assistants, the brothers Roin and Georgiy Iosav. The young

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KOKAYA, A., Zarya Vostoka, 17 Mar 73, p 4

scientists enjoy their work and can talk for hours about the habits of dolphins -- those very intelligent marine creatures -- and about the secrets of their highly organized brain.

"Since time immemorial dolphins have attracted man's attention," says D. Morozov. "They were well known by the ancient Greeks as helpers in fishing. Hellenes worshipped dolphins, engraving their image on medals and coins. Recently interest in these surprising marine mammals has increased. In many countries of the world dolphinariums have already been built where much scientific work is being carried out and shows are set up."

Dolphins are very talkative, if one may use the word. Aristotle wrote that they emit sounds similar to those of a flute. The verbal and acoustic capabilities of these animals, however, have remained little-studied to date. After numerous experiments we have been able to confirm the assumption of scientists to the effect that the hearing of dolphins is 10 times more acute than that of man. Our experiments have also confirmed that dolphins perceive ultrasound: more than once we have had occasion to observe them leaving the coastal belt before an advancing storm. As is well known, underwater sounds are ultrasonic.

But of course the most interesting work lies ahead for scientists. When the construction of the dolphinarium is completed, they will start to work in earnest on one of numerous puzzles of dolphins -- their speed, which exceeds the speed of racing ships.

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KOKHAN, A.I.

UAS 58278
21 Feb 73

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* Sovetskoye Zdravookhraneniye, No 9, 1973, pp 21-25.

For two years we conducted expert evaluations of the quality of observation and treatment of infants up to 12 months of age and quality

This is a very laborious job.

In itself, expert evaluation of therapeutic work is subjective. In the same chart, one expert will pick up a higher percentage of flaws than another. In the card proposed by these authors for expert evaluation of rational use of bed and quality of hospital care, it is not shown whether the flaws detected affect the quality of therapy and outcome of illness. The authors remain silent on the role of the expert. Evidently, expert evaluation should be made by an experienced and knowledgeable physician of highest or first category, department head, assistant to chief physician in the area of therapy, department such individuals find time to perform such expert evaluations regularly?

The article by V.D. Bayda and E.O. Yaksen is very timely; the authors raise an important issue. Indeed one often judges the quality of therapeutic activity by random and subjective facts. It would be better to evaluate it by using expert ratings. But are the results of an expert rating an objective criterion of quality of treatment? The authors report that in 1968 the mean duration of hospitalization directed by 7.9 days as compared to 1962. This is information that any chief physician should know even without an expert evaluation. These and other indices of hospital work are important in the sense of current information and without it the therapeutic institution cannot be managed.

[Article by A.I. Kokhan, Aleksandriya Children's Hospital, Kirovskiy District, Moscow, Sovetskoye Zdravookhraneniye, Russian, No 1, 1973, submitted 14 August 1972, p 51]

EXPERT EVALUATION OF THE QUALITY OF THE THERAPEUTIC PROCESS (WITH REFERENCE TO THE ARTICLE BY V.D. BAYDA AND E.O. YAKSEN ENTITLED "EXPERT EVALUATION OF THE QUALITY OF THE THERAPEUTIC PROCESS IN HOSPITALS AND POLYCLINICS")

UDC: 615-08:[362.11+562.121]:

658.562(049.3)

Children's Hospital

Acc. Nr: **AP0044696**

Ref. Code: **UR 0531**

PRIMARY SOURCE: Khirurgiya, 1970, Nr 1, pp 28-31

**CHANGES OF THE BLOOD COAGULATION SYSTEM
IN PATIENTS WITH OBLITERATING ENDARTERITIS
OF THE LOWER EXTREMITIES**

Kokhan, Ye. P.; Zolotarevskiy, V. Ya.; Khrushcheva, Ye. A

Coagulographic indices were investigated in patients with obliterating endarteritis at different stages and phases of the disease. Manifestations of hypercoagulation were revealed in all stages of the disease, however they were more marked in the pregangrenous and gangrenous stages and in the phase of exacerbation. Coagulographic tests to an adequate measure reflect the state of the blood coagulation and anticoagulation system and are convenient in the practical work.

REEL/FRAME

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CHEMICAL ABST.

10/69 UR 0139

65928u Possible determination of the wavelength of active ruby radiation from its temperature. I. Kokhangko, P. N.; Antipov, A. B. (Sib. Fiz. Tekh. Inst. im. Muznetsova, Tomsk, USSR). *Izv. Vyssh. Ucheb. Zaved., Fiz.* 1969, 12(5), 33-6 (Russ). The dependence of the radiation wavelength on the crystal surface temp. was measured in 2 ruby lasers with similar excitation sources, at 17-125°. The same expression was applicable to both lasers if the methods of heating the crystal and measuring its temp. were identical, thereby permitting the detn. of the wavelength with a max. error of 0.3 Å. The divergence from previously reported data (I. D. Abella and H. Z. Cummins, 1961) is ascribed to differences in equipment and measurement method. Alexandre Fues

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AT 9042256

CHEMICAL ABST. 10/69 UR 0139

65929v Possible determination of the wavelength of active ruby radiation from its temperature. II. Kokhanenko, P. N.; Antipov, A. B. (Sib. Fiz. Tekh. Inst. im. Kuznetsova, Tomsk, USSR). *Izv. Vyssh. Ucheb. Zaved., Fiz.* 1959, 12(5), 37-40 (Russ). The temp. shift of the R_1 ruby line was investigated in the absorption, luminescence, and generation spectra of a laser at temps. above the ambient. For identical methods of heating of the crystal and temp. measurement, the data yielded by the generation spectra agree with those of the absorption spectra. The curves of the wavelength vs. temp., for a crystal not controlled by a thermostat, are shifted toward the low temps., in relation to a crystal controlled by a thermostat, and have a different slope. This is ascribed to differences in the temps. measured at the crystal surface and those within the crystal, when a thermostat is absent.

Alexandre Fucs

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Luminescence

USSR

UDC 661.143(088.8)

KOKHANOV, B. T., DADAMYAN, Z. M., and DEGTYAREV, A. P.

"A Contact Suspension"

USSR Author's Certificate No 342226, Division H, filed 20 Oct 69, published 13 Jul 72 (from RZh-Khimiya, No 16, 25 Aug 73, Abstract No 16L169 P by N. Sh.)

Translation: The invention relates to the production of electroluminescent capacitors. A contact suspension has been developed which can be used to make reliable contacts on brittle substrates without applying pressure, and at 20°C. The initial components of the suspension are molecular silver, tin abietinate, BF-4, cement and ethyl alcohol. The use of tin abietinate in the suspension combined with the above mentioned components produces electrically conductive junction contacts of aluminum film. The contacts can be made according to the following procedure. The silver for the composition is prepared from silver chloride by zinc reduction in a 20% H_2SO_4 solution (0.3 g of zinc and 5 ml of H_2SO_4 per gram of silver chloride). The zinc is dissolved with agitation and heating. The resultant molecular silver is washed, dried, and rubbed into a powder. The tin abietinate is prepared by 1/2

USSR

KOKHANOV, B. T., et al., USSR Author's Certificate No 342226, Div H, filed 20 Oct 69, published 13 Jul 72

melting stannic oxide with rosin powder in a 2:1 ratio, rubbing the residue into a powder and dissolving it in alcohol. The makeup of the suspension is: molecular silver (4 wt.%), wthyl alcohol (the quantity depends on the required viscosity of the suspension), BF-4 cement (1 wt.%), and tin abietinate (1 wt.%). The components of the suspension are mixed in a hermetically sealed vessel and applied to a thin film of aluminum. After holding at 20°C for 2 hours, leads can be applied to a contact of the suspension by low-temperature soldering.

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- 5 -

USSR

UDC 621.3.049.774.002.5

DADAMYAN, Z. M., DEGTYAREV, A. P., KOKHANOV, B. T., MAKAROV, Yu. Ye.

"A Method of Making Printed Circuits"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 2, Jan '71, Author's Certificate No 290494, division II, filed 13 Sep 68, published 22 Dec 70, p 170

Translation: This Author's Certificate introduces a method of making printed circuits based on making an electrostatic image of the printed circuit on a foil-coated dielectric board, and etching the blank sections. As a distinguishing feature of the patent, the method is simplified by covering the foil-coated board with a dielectric layer such as lacquer with a polyvinyl alcohol base before applying the electrostatic image of the circuit.

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USSR

UDC: 621.396.6.022(088.8)

KOKHANOV, B. T., GORODETSKIY, B. V., SHIBANOV, G. P., TOTAYEV, L. T.,
Taganrog Radio Engineering Institute

"A Device for Automatically Checking Electronic Radio Equipment"

USSR Author's Certificate No 264793, filed 15 Sep 68, published 29 Jun 70
(from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12V462 P)

Translation: This Author's Certificate introduces a device for automatically checking electronic radio equipment. The unit contains a normalizing commutator, measurement device, analyzer, signal converter, time-netting units with time selectors, and modules for automatic monitoring and display. To improve efficiency in checking, the device also contains a prognosis module whose inputs are connected through the signal converters and time selectors to the prognosis outputs of the normalizing commutator, measurement device and analyzer, while the output of the prognosis module is connected to the display module through an OR circuit. The other input of the OR circuit is connected to the output of the automatic monitoring module.

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- 63 -

USSR

APPROVED FOR RELEASE: 09/17/2001 159 621.396.6.022(088.8) CIA-RDP86-00513R001401410016-3"

GORODETSKIY, B. V., KOKHANOV, B. T., SHIBANOV, G. P., Taganrog Radio
Engineering Institute

"A Device for Automatically Checking Radio Electronic Equipment"

USSR Author's Certificate No 264792, filed 16 Sep 68, published 2 Jul 70
(from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1V359 P)

Translation: A device is proposed which contains a normalizing commutator, a program unit, an analyzer, modules for measuring, self-monitoring and display, and completion time pickups. The device contains an additional computer module whose inputs are connected to the outputs of the pickups for the time of completion of the object being monitored, to the outputs of the modules of the monitoring device, and to the output of the analyzer, while the output of the computer module is connected to the input of the display module.

1/1

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USSR

UDC 541.138.2:546

KOKHANOV, G. N., and KHANOVA, L. A.

"Influence of pH on the Consumption (Wear) of a Graphite Anode in Combined Discharge of Chlorine and Oxygen at 40°C"

Moscow, Elektrokhimiya, Vol 6, No 10, Oct 70, pp 1492-1496

Abstract: The dependence of combustion of a graphite anode on pH in combined discharge of chlorine and oxygen in 4.4 N NaCl was studied at 40°C. It is demonstrated that combustion of the graphite occurs as oxygen is separated on it from the water molecules, and does not occur (or almost does not occur) if the oxygen is separated as a result of discharge of hydroxyl ions. It is demonstrated that a significant portion of the wear of the graphite anode results from chemical interaction between the graphite and active chlorine. The study was performed in a laboratory chlorine and chlorate electrolyzer with a chloride content in the anolyte of 3.2 N NaCl and 4.4 N NaCl, respectively. The current density in all experiments was 2,000 a/m². The wear of graphite anodes observed under industrial conditions is thus composed of chemical, electrochemical, and mechanical components. The ratio between chemical and electrochemical wear components may vary. Under the experimental conditions used in this article, chemical wear was approximately equal to electrochemical wear at pH 4-4.5.

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1/2 016 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--EFFECT OF PH ON THE KINETICS OF OXYGEN LIBERATION ON A GRAPHITE
ANODE -U-
AUTHOR-(02)-KOKHANOV, G.N., MILOVA, N.G.
COUNTRY OF INFO--USSR *K*
SOURCE--ELEKTROKHIMIYA 1970, 6(1) 73-7
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--HYDROGEN ION CONCENTRATION, OXYGEN, GRAPHITE ELECTRODE,
ELECTROLYTIC OXIDATION, CHEMICAL REACTION MECHANISM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1989/0466

STEP NO--UR/0364/70/006/001/0073/0077

CIRC ACCESSION NO--AP0107072

UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--020CT70

CIRC ACCESSION NO--AP0107072

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF PH ON THE EVOLUTION OF O ON GRAPHITE (15 TIME 15 TIME 5 MM) FROM PHOSPHATE BUFFERED SOLNS. MAINTAINED AT 50DEGREES WAS STUDIED BY MEASURING THE STEADY STATE POLARIZATION. AT PH LESS THAN 7, THE EXPTL. TAFEL COEFF. VALUE B WAS NEARLY CONST. AT 0.2, WHICH CORRESPONDED TO DISCHARGE OF H SUB2 O; IT LINEARLY DECREASED TO 0.062 AT PH GREATER THAN 13, WHICH CORRESPONDED TO DISCHARGE OF OH PRIME NEGATIVE. A SLIGHT DIP IN THE B VALUE OCCURRED AT PH 2. GAS ANAL. AT PH VALUES 9 AND 11.2 SHOWED THAT BOTH CO SUB2 AND O WERE EVOLVED. INCREASING C.D. INCREASED THE AMT. OF O AND DECREASED THE AMT. OF CO SUB2. LESS O WAS EVOLVED AT PH 9 AT ALL D.O.S. THAN AT PH 11.2. THE RESULTS SHOWED THAT IN THE TRANSITION PH RANGE, THE MECHANISM OF O EVOLUTION INVOLVED DISCHARGE FROM BOTH OH PRIME NEGATIVE IONS AND H SUB2 O, AND THAT THE B VALUE AND THE DEGREE OF ANODIC OXIDN. DEPENDED ON THE NUMERICAL RATIO OF THE 2 DISCHARGING SPECIES.

UNCLASSIFIED

USSR

UDC: 681.326.3

ZHUKOV-YEMEL'YANOV, O. D., FILIMONOV, Ye. A., KOKHANOV, Yu. A., KLIMOV, V. V.

"A Device for Controlling a Modular Primary Memory Unit"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki,
No 31, 1970, Soviet Patent No 283685, Class 42, filed 18 Aug 69, p 138

Abstract: This Author's Certificate introduces a device for controlling a modular primary memory unit. The device contains a circuit for commutating the lines of the primary memory unit, comparison circuits, control circuits, an analysis circuit, and a demand priority circuit. As a distinguishing feature of the patent, speed is increased by adding a block of tags for unsatisfied demands, a **store** of controlling words for the primary memory unit, and a selection circuit for the release register of the control word **store**. The control circuit for the block of tags for unsatisfied demands is connected to the circuit for analyzing demand words from the channels and the central computer. The controlling inputs of this analysis circuit are connected to the circuit for priority of demands from the channels and the central computer. The circuit for controlling selection from the block of tags for unsatisfied demands is connected by its first output to the control inputs of the circuit for priority of demands from the channels and the cen-

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ZHUKOV-YEMEL'YANOV, O. P. et al., Soviet Patent No 283685

tral computer, while its second output is connected by the controlling inputs to the first inputs of the registers of the store of controlling words of the primary memory unit. The first group of inputs of the circuit for control of selection from the block of tags of unsatisfied demands is connected to the outputs of the circuits which shape the signals for the end of the cycle of the modules in the primary memory. The second group of inputs is connected to the first outputs of the registers of the block of tags for unsatisfied demands, and the third group of inputs is connected to the outputs of the first comparison circuit. The circuit for control of the block of tags for unsatisfied demands is connected by the controlling inputs to the first register of the block of tags for unsatisfied demands and to the circuit for priority of demands from the channels and the central computer. The second outputs of the registers of the block of tags for unsatisfied demands are connected to the inputs of the first comparison circuit. Connected to the auxiliary input of the comparison circuit is the first output of the circuit for selecting the register of the store of controlling words for the primary memory. The second output of this circuit is connected to the circuit for control of selection from the primary memory and the distribution of readout data, and its inputs are connected to the first outputs of the registers of the store of controlling words of the primary memory. The second outputs of the store are connected to the inputs of the second com-

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ZHUKOV-YEMEL'YANOV, O. D. et al., Soviet Patent No 283685

parison circuit, the auxiliary input of this comparison circuit being connected to the circuit for analysis of demand words from the channels and the central computer. This analysis circuit is also connected to the first input of the second comparison circuit and to the first and second inputs of the circuit for control of the store of controlling words of the primary memory unit. The outputs of this control circuit are connected to the second inputs of the registers of the store of controlling words of the primary memory unit, to the circuit for commutating the lines of the primary memory unit, and to the circuit for priority of demands from the channels and the central computer.

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USSR

UDC 678.048

MIKHAYLOV, V. V., KOKHANOV, YU. V., KAZARYAN, K. S., MATVEYEVA, YE. N.,
and KOZODOY, A. A.

"Metal Dialkyldithiophosphates -- Stabilizers of Polymeric Materials"

Moscow, Plasticheskiye Massy, No 9, 1970, pp 23-24

Abstract: Various metal salts of the dodecyl ester of dithiophosphoric acid were studied as light and thermal stabilizers for polyamides and polyolefines: zinc, nickel, copper, and chromium salts. Comparison of the rate of oxygen consumption at 200°C and 200 mm Hg of the polymers PA-68 and PA-12, to which these salts were added, using a proven stabilizer N,N'-di- β -naphthyl-p-phenylenediamine (DNPDA) as control, showed that the nickel salt of PA-68 and the copper salt of PA-12 surpass the DNPDA. Both of these compounds leave the polymer colorless, in contrast to DNPDA. The copper and nickel salts show good synergistic activity as light stabilizers for polyolefines when mixed with 2-hydroxy-4-alkoxybenzophenone (benzone OA).

KOKHANOVA, L. L.

Biology

THE WORK OF THE UKRAINIAN SOCIETY OF GENETICISTS AND BREEDERS
IMENI M. I. VAVILOV

[Article by Candidate of Biological Sciences L. L. Kokhanova:
Kiev, Vistnyk Akademiyi Nauk Ukrains'koyi RSR, Ukrainian, Vol
15, No 4, April 1973, pp 99-102]

As is well known, genetics is the branch of biology which studies the most important properties of life -- the hereditary and variability of organisms. The principal problem of contemporary genetics is mastering the control of heredity, which is based on knowledge of its essence. The solution of this problem is of great importance to the further development of agriculture and medicine and will make it possible to influence the evolution of life on our planet.

The use of the latest methods of investigation has permitted scientists to advance considerably in the study of the structure, chemical composition and function of cell structures and in the investigation of the chemical dynamics of the cell and its components. The mechanism of the biosynthesis of proteins and nucleic acids, of the transmission of hereditary information, etc., has been explained in the main. In the USSR, in the last decade, work has been successfully developed in the area of the genetics of microbes and viruses of molecular, radiational and chemical mutagenesis in breeding, in the theory of heterosis and in experimental polyploidy.

The collaboration of genetics with related branches is a guarantee of the successful solution of genetic problems.

To create the conditions for a radical increase of the productivity of plants, animals and microorganisms it is necessary to strengthen the union of genetics and selection; to struggle for the health, longevity and lasting youth of man it is necessary to solve problems of general genetics and human genetics in collaboration with medicine; the working out of

5280, 53274
BIOLOGY

Acc. Nr: AP0101142

Ref. Code: UR0197

PRIMARY SOURCE: Antibiotiki, 1970, Vol 15, Nr 3, pp 276-279

ANTIBIOTIC SENSITIVITY IN VARIOUS SEROLOGICAL GROUPS AND TYPES OF
SALMONELLA

T. M. Kokhanovskaya

Laboratory of New Antibiotics of Central Post-Graduate Medical Institute, Moscow

In studies on sensitivity of 800 cultures of Salmonella to 10 antibiotics a certain regularity in every of 6 serological groups was observed.

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19850768

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UDC: 639.309

KOKHANSKAYA, E.M., Institute of Evolutionary Morphology of Animals imeni
A. N. Severtsov, Academy of Sciences USSR, Moscow

"The Use of Ultraviolet Radiation to Control Diseases in Roe and Fish A Small
Bactericidal Device, the MBU-3"

Moscow, Voprosy Ikhtiologii, Vol 10, No 3, 1970, pp 537-545

Abstract: Using PRK-7 lamps which deliver rather intense ultraviolet radiation in the spectrum of 3650-3663 A, the author determined the sterilizing efficiency of lamps on water containing various pathogens affecting roe and fish, including saprolegnia, ichthyophthirius, cercaria, trichomes, dactylogyrus, paramecium and zooplankton. Having determined the efficiency of the lamp in sterilizing slowly flowing water, the author constructed an installation consisting of 26 lamps, called an MBU-3, containing one cubic meter of water sterilized by UV. This installation permits thoroughly safe incubation of fish eggs, healthy development of the larvae, and vigorous growth of fry.

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USSR

UDO 621.315.55:537.312.62

KOKHANOVSKIY, S.M., NOVITSKIY, V.G., SHAKHTARIN, V.N.

"Test Of Planning And Creation Of Superconducting Solenoids"

V sb. Vopr. primeneniya sverkhnizk. temperatur v elektrotekhn. (Problems Of The Use Of Ultralow Temperatures In Electrical Engineering--Collection Of Works), Leningrad, "Nauka," 1971, pp 74-90 (from RZh:Elektrotehnika i energetika, No 6, June 1972, Abstract No 6B69)

Translation: An account is given of a method of calculation and designing, and the results of a test of superconducting solenoids with a magnetic field intensity from 10 to 70 k-oersted for physical experiments. The interior diameter and the magnetic field intensity at the geometrical center of the superconducting solenoids were taken as the initial data. Calculated curves are presented of the dependence of the masses of the superconducting materials of the superconducting solenoids on the current density in the super conductor. Also presented are various configurations of the superconducting solenoids with an increased uniformity of the magnetic field attained because of the exclusion of a part of the turns of the winding. The distinctive features of the technology of the production of superconducting solenoids are described and the principal data on 30 completed superconducting solenoids are presented. 13 ill. 2 tab. 4 ref. Ye.V.Granovskiy.

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USSR

UDC: 621.791.94:621.387.143

VASIL'YEV. K. V., Candidate of Technical Sciences, and KOKHLYAN, L. O., Engineer,
All-Union Scientific-Research Institute of Gas Welding and Cutting Machinery

"The Cast Section of the Thermal Effect Zone and the Hydromechanics of Plasma-Arc
Cutting"

Kiev, Avtomaticheskaya Svarka, No 9, Sep 73, pp 32-36

Abstract: The authors study the microhardness, structure, and chemical composition of the metal in the cast section of the thermal effect zone in the plasma-arc welding of low-carbon steel. It is shown that the cast section is formed as the result of the thermal effect and the hydromechanical processes associated with cutting. A hydromechanical model is proposed for plasma-arc cutting along with equations for describing the regularities associated with determining the nature of the effect of cutting conditions on the depth of the cast section.

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UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent, 1-70

241488 HIGH-STRENGTH WIRE PRODUCTION despite maintained plasticity is afforded by a temper at 350°C between drafting (reduction) routines, residence under tensile load comprising 70% of the yield limit. Wire blanks diametered 6.5 mm at 460-470°C were drawn down to 3 mm to provide 800 mm blanks or testpieces which were heated at 350°C for 60 secs in extended condition. These were then drawn down to 1.8 mm and tested by prescribed methods. Their strength was found to be higher than in a conventionally drawn and treated wire product.

14.3.67 as 1140747/22-1. NOVOD V. I. & POTEKIN. K. D.
(28.8.69) Bul 14/18.4.69. Class 18c. Int. Cl. C 21H.

19750358

1/2 036 UNCLASSIFIED PROCESSING DATE--11DEC70
TITLE--CHOLINESTERASE ACTIVITY IN SUBCELLULAR FRACTIONS OF RAT BRAIN
DURING X IRRADIATION IN RELATION TO HYPOPHYSEALADRENAL FUNCTION -U-
AUTHOR--(02)--KRIPCHENKO, I.P., KOKHNYUK, V.I.
COUNTRY OF INFO--USSR
SOURCE--VESTSI AKAD. NAVUK BELARUS. SSR. SER. BIVAL. NAVUK 1970, (2), 90-3
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--RAT, BRAIN, X RADIATION, CHOLINESTERASE, HYDROCORTISONE,
RADIOPROTECTIVE AGENT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605014/F08 STEP NO--UR/0440/70/000/002/0090/0093
CIRC ACCESSION NO--AP0140540
UNCLASSIFIED

2/2 036

UNCLASSIFIED

PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AP0140540

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CHOLINESTERASE (I) ACTIVITY OF THE NUCLEAR, SUPERNATANT, AND MITOCHONDRIAL FRACTIONS OF RAT BRAIN HOMOGENATES WAS DETD. IN INTACT ANIMALS, MITOCHONDRIA DISPLAYED THE HIGHEST I ACTIVITY. THIS PATTERN WAS CHANGED IN ADRENALECTOMIZED RATS IRRADIATED WITH A SINGLE DOSE OF X RAYS (40 R). ADMINISTRATION OF HYDROCORTISCNE ACETATE, ALONE OR WITH ADRENALINE, STIMULATED I ACTIVITY AND EXERTED A RADIOPROTECTIVE EFFECT. FACILITY: BELORUSS. GOS. UNIV. IM. LENINA, MINSK, USSR.

UNCLASSIFIED

USSR

UDC: 621.311.001.2.003.1

~~KOKHOV~~ V. I., KRYUKOV, A. A., MARKOVICH, I. M., Moscow

"Optimization Models for Development of Electric Power Systems and System Mergers"

Moscow, Izv. AN SSSR: Energetika i Transport, No 3, May/Jun 72, pp 3-11

Abstract: The authors consider three types of optimization models of development of electric power systems: utilizing a previously developed model of the estimation type, a block optimization model, and a global model. Their advantages and disadvantages are compared. The results of the analysis show that an optimization model should be developed which utilizes the estimation model as a sub-block. The problem of selecting variants of the development of power plants in a power supply system is mathematically formulated, and an algorithm is devised for solving this problem, utilizing the method of branches and boundaries.

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CSO: 1860-M

USSR

KOKHREIDZE, P. I.

"Calculating Flat Shells with Rigid and Hinged Attachment of Opposite Sides"

Tr. 15-y Nauchno-tekhn. konferentsii professorsko-prepodavat. sostava i nauchn. rabotnikov problemn. i otraslevykh labor. Gruz. politekhn. in-ta. Vyp. 8 (Works of the 15th Scientific and Technical Conference of the Professorial and Teaching Staff and Scientific Workers and Problem and Branch Laboratories of the Georgian Polytechnical Institute. Vyp. 8), Tbilisi, 1970, pp 150-155 (from RZh-Mekhanika, No 11, Nov 70, Abstract No 11V123)

Translation: This article contains a study of the equilibrium of a sloping shell on a rectangular plan for special cases of boundary conditions: rigid and hinged support of opposite sides. The system of two joint differential equations of the technical theory of shells with respect to stress and displacement functions is used. In solving the system of equations, these functions are given in the form of a linear combination of fundamental beam functions. The coefficients of the expansions in a

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USSR

KOKHREIDZE, P. I., Tr. 15-i Nauchno-tekhn. konferentsii professor-skoprepodavat. sostava i nauchn. rabotnikov problemn. i ostrasleyvkh labor. Gruz. politekhn. in-ta Vyp 8, 1970, pp 150-155

series with respect to the fundamental functions are presented. It is discovered that in certain cases the quasiorthogonal beam functions do not satisfy the physical essence of the problem. The indicated lack of correspondence is eliminated by introducing additional terms into the beam functions. The bibliography has 7 entries.

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USSR

UDC: None

KOKIN, A. A. and POPOVKIN, I. V.

"Dynamic Orientation of the Electrons in a Semiconductor in a Strong Electromagnetic Wave Field"

Leningrad, Fizika Tverdogo Tela, No 7, 1973, pp 1969-1974

Abstract: It is known that, at high pumping intensities of a semiconductor in a strong electromagnetic field, an unbalanced system of the semiconductor transforms to a qualitatively new steady state, a state of saturation for which the theory of perturbations is not valid. The function of this paper is to examine theoretically the electron spin polarization in this case. It is assumed that the frequency of the electromagnetic wave is slightly larger than the width of the semiconductor forbidden zone. Expressions are obtained for the spin polarization which are valid for all electrons thrown into the conductivity zone that satisfy the condition that their spin relaxation time greatly exceed the recombination time -- i.e., that the electrons maintain their spin orientation for their lifetime in the zone.

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KOKIN, A. A.

Microelectronics

MICROELECTRONICS

JPRS 57333
25 October 1972

Excerpts from Russian-language book edited by F. V. Lukin;
Mikroelektronika, No 5, 1972, Sovetskoye Radio Publishing House,
Moscow, UDC 621.382.621.396.6-181.5

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- A -

[I - USSR - F]

culture, an important role is played by the choice of a constant current source.

The article analyzes the dependence of instability of the logic differential of the integrated circuits for the current switches on change in the destabilizing factors (supply voltage, temperature) and technological scatter in the component parameters) by using different modifications of the constant current source.

Recommendations are given for the optimal selection of the constant current source.

The article contains 4 figures, 1 table, and 5 bibliographic references.

UDC 535.166.3.011.27

Distribution of thermoelectric deformations in the Surface Region of Thermally Oxidized Silicon. Volynskiy, L.A., Kozlov, B.I., Kozlov, A.A., Malov, A.G., and Malov, A.V. in the Collection Microelectronics, edited by I.V. Lukin, No 5, p 282, Sovetskoye Radio Publishing House, 1972.

The article theoretically analyzes the distribution of elastic deformations in the surface region of thermally oxidized silicon. The authors examine the case of a dense oxide film on a semiconductor and the case of termination of its denseness. The value obtained agrees with the theoretical computation. The authors discuss the results of experiments testifying to the localization of the deformations in the surface layer of silicon at the sites of termination of denseness of the oxide. They show the influence of thermoelectric deformations on the chemical activity and volt-feraday characteristics of the NIP structures.

The article contains 3 figures and 11 bibliographic references.

UDC 621.383.42.546.48.22/23

Investigation of the Longitudinal Operating Mode of CDS-CDS₀ Film Photoresistors. Volynskiy, L.A., Kozlov, K.M., No-mashko, V.A., and Skarzhinskaya, E.P. in the Collection Microelectronics, edited by I.V. Lukin, No 5, p 298, Sovetskoye Radio Publishing House, 1972.

The article describes a manufacturing method and the parameters of the CDS-CDS₀ photoresistors, operating in a longitudinal mode. The authors mention their high specific sensitivity (0.5-1 A/V^{1/2}) and the weak dependence of the

USSR

UDC 621.52.001

KOKIN, A.S.

"Computation Of The Magnitude Of Ion Current Obtained For Ionization Of A Molecular Beam By Electron Bombardment (Abstract Of Deposited Paper. Institute Of Electronics No. DE-223)"

Elektron. tekhnika. Nauchno-tekhn. sb. Tekhnol. i organiz. proiz-va (Electronic Technology. Scientific-Technical Collection. Technology And Organization Of Production), 1970, Issue 4(36), p 77 (from RZh--Elektronika i yeye primeneniye, No 3, March 1971, Abstract No 3A30)

Translation: The computation conducted of the probability and area of the ionization cross section makes it possible to determine the magnitude of the ion current obtained during ionization of a molecular beam by electron bombardment. The circuit is presented of an experimental unit constructed for a test of the theoretical computations. A detailed computation is given of the current density of the electron beam necessary for the most complete ionization of the atoms of a volatile substance. The dependence of the magnitude of the ion current on the current density of the electron beam of the gun is graphically presented. The results of the work show that the principal factor which assures an enlargement of the ion current is the increase of the current of an electron beam intended for ionization of atoms and molecules. 4 ref. R.Sh.

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USSR

UDC 669.15.018.8:620.196.2

KOKIN, S. D., ZHADAN, T. A., and GULYAYEV, A. P.

"Ferritic Steel Susceptibility to Intercrystalline Corrosion and Embrittlement"

Dokl. XXX Nauchno-tekhn. konferentsii. Mosk. in-t khim. mashinostr (Papers Presented at Thirtieth Scientific and Technical Conference of Moscow Institute of Chemical Machinery), Vol 2, vyp. 1, Moscow, 1970, pp 115-118 (from RZh-Metallurgiya, No 3, Mar 71, Abstract No 3I581 by V. Olenicheva)

Translation: On the basis of intercrystalline corrosion (IC) susceptibility tests, hardness measurements, and metallographic analysis, a temperature-time dependence range of IC susceptibility is constructed for OKhl7T, Kh25T, and Kh28 steels, as well as the steel group with ~17% Cr and varying content of C (0.03-0.09%) and Ti (0.51-0.65%). The degree of Cr alloying affects the mechanical characteristics of the steels. At the same temperatures and with the same holding periods Kh25T and Kh28 steels have greater hardness and strength than OKhl7T steel. C and Ti content, as well as grain size, greatly affect the onset of IC and embrittlement susceptibility. Steel with a low C content (0.03%) is not prone to embrittlement. The IC susceptibility of ferritic steels disappears on repeated heating. One illustration. Bibliography with Two titles.

1/1

Acc. Nr: **AP0044018**

Ref. Code: UR 0240

PRIMARY SOURCE: Gigiyena i Sanitariya, 1970, Nr 2, pp 19-22

**FACTORS AFFECTING THE QUALITY OF SUBSURFACE WATER
IN THE AREA OF A CONTAMINATION SOURCE**

A. G. Kokina

The data listed confirm that the quality of water in underground aquifers within the area of a contamination source deteriorates, above all, with regard to its chemical characteristics, this being due to a farther spread of chemical contaminants by comparison with bacterial pollution. One can consider adequate natural protection of aquifers to be a sufficient guarantee permitting exploitation of a well lying in close proximity to the source of contamination. Should the natural protection of an aquifer be inadequate, the latter being exploited within the area covered by such a source of contamination, the quality of water can depend upon the direction of the phreatic water stream, and not only of the natural, but also the one formed during operation of wells.

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REEL/FRAME
19770455

Feb 6

1/2 026 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--ADDITION OF DIALKYL PHOSPHONIC ACID TO
TRIS,P,ISOCYANATOPHENYL,METHANE -U-
AUTHOR-(03)-BAKHITOV, M.I., KUZNETSOV, YE.V., KOKINA, G.T.
COUNTRY OF INFO--USSR
SOURCE--ZH. OBSHCH. KHIM. 1970, 40(3), 570-1
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--IR SPECTRUM, ORGANIC ISOCYANATE, PHOSPHONIC ACID, BENZENE
DERIVATIVE, ORGANIC PHOSPHORUS COMPOUND
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/0939 STEP NO--UR/0079/70/040/003/0570/0571
CIRC ACCESSION NO--AP0124599

UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0124599

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TO A 20PERCENT SOLN. OF (P,OCNC
SUB6 H SUB4) SUB3 CH IN C SUB2 H SUB4 CL SUB2 WAS ADDED SLOWLY 0.042
MOLE (RO) SUB2 PHG CONTG. ITS NA SALT WAS CATALYST, (EXOTHERM) AND THE
MIXT. HEATED 1 HR AT 60DEGREES TO GIVE ON ADDN. OF DRY ET SUB2 O HC(C
SUB6 H SUB4 NHCCPG(OR) SUB2) SUB3 (R SHOWN): ME, M. 138-9DEGREES; ET,
M. 148-9DEGREES; PR, M. 141-2DEGREES; ISO-PR, M. 144-5DEGREES; BU, M.
150-1DEGREES; AND ISO-BU, M. 151DEGREES. THE IR SPECTRUM WAS SHOWN FOR
THE ET MEMBER. FACILITY: KAZAN. KHIM.-TEKHNOL. INST. IM.
KIROVA, KAZAN, USSR.

UNCLASSIFIED

USSR

UDC: 621.791.3.052:622.336+669.18.2/.8

• IUKINA, E. YU., Candidate of Technical Sciences, ~~KOKINA, T. A., Engineer, and~~
KRAVETSKIY, G. A., Candidate of Technical Sciences

"Particulars on the Thermal Expansion of Graphite-Metal Soldered Joints"

Moscow, Svarochnoye Proizvodstvo, No 6, Jun 73, pp 36-37

Abstract: The authors study the thermal expansion of specimens in the 20-500°C interval. Soldered specimens made from GM3 graphite and St3 steel were used. These were soldered at 1155°C at a heating rate of 575 and 40°C/minute. The study was carried out in the Shevenara (DR-49) horizontal quartz dilatometer. The maximum measurement error for the average linear coefficient of thermal expansion was $\pm 0.2 \cdot 10^{-6} / ^\circ\text{C}$. Cylindrical specimens 3.5mm in diameter and 40mm long were used for measurement purposes. X-ray quality control shows that the specimens differ with respect to each other according to the depth of metal penetration into the graphite, and with respect to the nature of the distribution of the metallic inclusions in the transition zone of the joint. The results show that the coefficient of thermal expansion for the graphite-steel soldered specimens exceeds the index by seven percent, where the index is obtained by the computational method from the conditions for the additivity of the thermal expansion of carbon and steel. An evaluation of the thermal expansion of the zone of soldering shows that the coefficient of thermal expansion is determined by the depth and nature

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USSR

LUKINA, E. YU., et al, Svarochnoye Proizvodstvo, No 6, Jun 73, pp 36-37

of the graphite penetration by the metal. This depends on the general value of porosity and on the distribution of pores with respect to size.

2/2

- 73 -

USSR

UDC: 532.595.2

CHURIKOV, F. S., KOKINASIDI, P. D.

"On the Shape of Pipelines in Water Hammer Theory"

Nauchn. tr. Krasnodar. politekhn. in-t (Scientific Works of Krasnodar Polytechnical Institute), 1970, vyp. 30, pp 26-29 (from RZh-Mekhanika, No 7, Jul 71, Abstract No 7B591)

Translation: The paper presents water hammer equations in characteristic variables for pipes of variable diameter and variable wall thickness. With the aid of a previously developed method, the coefficient in the transformed equation is selected so that the Riemann function can be used. It is shown that for the special case where the rate of propagation of water hammer along the pipe is constant, the pipe must have the shape obtained by rotating a hyperbola. In addition, five approximations are given for the characteristic of a pipeline. These approximations correspond to the condition of variable parameter and variable wall thickness. I. A. Chernyatin.

1/1

USSR

UDC 661.143.017:620.193.6

KOKKOTA, V. A., SHERSTNEV, L. G.

"Experimental Investigation of the Stability of Sulfide Cathodophosphors When Exposed to Photons"

Tr. Tallin. politekhn. in-ta (Works of Tallin Polytechnical Institute), 1972, No 323, pp 133-140 (from RZh-Khimiya, No 9, May 73, abstract No 9L163 by V. D. Matveyev)

Translation: The authors study the radiation stability of luminescent compositions and their aging process in cathode ray tubes. In addition, a correlation is established between the aging of cathodoluminescent compositions with excitation by photons and by electrons. White television mixture BM-4 and BM-5 and its components ZnS:Ag (blue) and (ZnCd)S:Ag (yellow) were used in the experiment with protracted exposure to photons with wavelength of 254 and 365 nm. These luminescent compositions were also exposed to cathodic excitation. The phosphorescent screen specimens were made by the method of deposition from an aqueous suspension onto a substrate of optical glass. The specific load was 3.5 mg/cm², which corresponds to a layer thickness of 10-12 μ m. The specimens were placed in quartz envelopes and exposed to emission from BUV lamps (wavelength 245 nm 1/2

- 6 -

USSR

KOKKOTA, V. A., SHERSTNEV, L. G., Tr. Tallin. politekhn. in-ta, 1972, No 323, pp 133-140

[sic]) and PRK lamps (wavelength 365 nm). Exposure was done both in air and in a vacuum of 10^{-3} and 10^{-6} mm [Hg] ($1.33 \cdot 10^{-1}$ and $1.33 \cdot 10^{-4}$ N·m $^{-2}$). During exposure in vacuum, the dark conduction of the phosphor was measured. For this purpose an aluminum contact was applied to the substrate or directly to the phosphor by vacuum sputtering. The conductivity of the phosphor layer increased after exposure to photons and decreased after exposure to electrons. The photon equivalent of exposure is deduced and a curve is plotted for the correlation between photon and electron aging. This simplifies the process of studying aging by replacing aging in a vacuum under electron exposure with the simpler aging at atmospheric pressure under UV exposure; thus the stability of a phosphor can be predicted for operation in cathode ray tubes. Bibliography of eight titles.

2/2

USSR

UDC 51:155.001.57:681.3.06

BORISOV, A. N., KOKLE, E. A.

"Recognition of Eroded Patterns by Characteristics"

Kibernetika i Diagnostika [Cybernetics and Diagnosis -- Collection of Works], No 4, Riga, Zinatne Press, 1970, pp 135-147 (Translated from Referativnyy Zhurnal Kibernetika, No 3, 1971, Abstract No 3 Y583 by the authors).

Translation: A method is suggested for recognition of eroded patterns. The method is based on construction of degenerate transforms of descriptions of classes and selection of useful class characteristics among them. Algorithms for construction of a decision rule with full sampling and limiting sampling (using a separable usefulness function) are studied. The general statements are illustrated with concrete examples.

1/1

1/2 012 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--POSSIBLE ABSORPTION OF HYDROGEN SULFIDE, ESCAPING DURING THE
VULCANIZATION OF EBONITE MIXTURES, USING ZEOLITES -U-
AUTHOR--(05)-KOCHANOVA, O.M., BLOKH, G.A., KOKMAN, F.S., STRELOK, I.M.,
LEVINA, S.A.
COUNTRY OF INFO--USSR
SOURCE--KAUCH. REZINA 1970, 29(3), 15-17
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--EBONITE, VULCANIZATION, HYDROGEN SULFIDE, ZEOLITE, SYNTHETIC
RUBBER/(U)SKMS50P SYNTHETIC RUBBER
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/0543 STEP NO--UR/0138/70/029/003/0015/0017
CIRC ACCESSION NO--AP0119462
UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119462

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ADDN. OF 8 WT. PARTS ZEOLITES FENAX 2 OR FENAY 3 TO EBONITE (BASED ON SYNTHETIC RUBBER SKMS 50P 100 AND S 40 PARTS) DECREASED THE EVOLUTION OF H SUB2 S DURING VULCANIZATION AT 170DEGREES BY UP TO 60PERCENT. OTHER COM. ZEOLITES (NACDX, FECAA 3, NAX) HAD CONSIDERABLY LOWER H SUB2 S ABSORPTION ABILITY. FACILITY: SVERDLOVSK. FILIAL NAUCH.-ISSLED. INST. REZIN. PROM., SVERDLOVSK, USSR.

UNCLASSIFIED

Acc. Nr

AP0045149

Abstracting Service:
CHEMICAL ABST.

Ref. Code

UR0138

K5-70

91294z Effect of the type of vulcanizing agent on the resistance of vulcanized butyl rubber to acetic acid. Kagan, E. R.; Fomina, A. S.; Kokman, F. S. (Sverdlovsk. Filial Nauch.-Issled. Inst. Rezin. Prom., Sverdlovsk, USSR). *Kauch. Rezina* 1970, 29(1), 17-19 (Russ). Butyl rubber (I) of mol. wt. 45,000 was vulcanized in the presence of S, Captax, thiuram, and ZnO; S, Altax, *p*-quinone dioxime (II), and ZnO; or 101K resin (III) and $\text{SnCl}_2 \cdot 2\text{H}_2\text{O}$, and the vulcanizates were tested in glacial AcOH at 20-118°. The acid resistance of I vulcanizates at 100° followed the order: III vulcanizates > S vulcanizates > S-II vulcanizates. Max. acid resistance in the free and stressed states at 90-118° was obsd. in III vulcanizates, which were thus recommended for the manuf. of gaskets for heat exchangers operating in contact with AcOH at 50-118°. CKJR

LD

REEL/FRAME

19780049

7

1/2 006 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--PROPERTIES OF HIGH SILICA PORTLAND CEMENTS UNDER VARIOUS HARDENING
CONDITIONS -U-
AUTHOR--(03)-CHEBUKOV, M.F., KOKNAYEV, N.F., PYACHEV, V.A.
COUNTRY OF INFO--USSR
SOURCE--TSEMENT 1970, (1), 18-20
DATE PUBLISHED--70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--CEMENT, SILICA, CALCIUM OXIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/1693 STEP NO--UR/0101/70/000/001/0018/0020
CIRC ACCESSION NO--AP0125314
UNCLASSIFIED

2/2 006

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NU--AP0125314

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE USE POSSIBILITIES OF THE TITLE CEMENTS WERE INVESTIGATED ON THE BASIS OF A STUDY OF THE PHYS. MECH. PROPERTIES OF HIGH SI CEMENTS (LIME SATN. COEFF. 0.78-0.91, FREE CAO 2.06-3.58PERCENT). WITH STEAM CURING (3 HR AT 100DEGREES), AFTER 90 DAYS, SOME CEMENTS WITH LIME SATN. COEFFS. LARGER THAN 0.85 HAD COMPRESSIVE STRENGTHS EXCEEDING AND BENDING STRENGTHS VIRTUALLY EQUIV. TO THOSE OF NORMAL HARDENED CEMENT. THE PROPERTIES OF THE CEMENTS ARE LARGELY GOVERNED BY THE 3CAO.SIO SUB2-2CAO.SIO SUB2 RATIO.
FACILITY: URAL. POLITEKH. INST., SVERDLOVSK, USSR.

UNCLASSIFIED

USSR

UDC 629.12:539.4

KOKOBANOV, YU. N.

"Toward a Projection of a Pliant Submarine Semispherical Station"

Nikolayev, Tr. Nikolayev, koraglestroit. in-ta (Transactions of the Nikolayev Ship-Building Institute), Vyp 63, 1972, pp 54-59 (from Referativnyy Zhurnal -- Mekhanika, No 4, 1973, Abstract No 4V1033)

Translation: Formulae and graphs for a preliminary evaluation of conditions and deformations in a pliant, submarine, semispherical station are presented. The initial stability and the stability in anchorages with large inclines are evaluated. (5 bibliographic entries, author's abstract)

1/1

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USSR

UDC 621.373.826:621.317.78

GUZHVA, V. G., ZINCHENKO, N. I., ~~KOKODIY, N. G.~~, KUZ'MICHEV, V. M.

"High-Speed Laser Radiation Pulse Energy Meter"

Radiotekhnika. Resp. mezhved. temat. nauch.-tekhn. sb. (Radio Engineering. Republic Interdepartmental Schematic Scientific and Technical Collection), No 19, 1971, pp 140-144 (from RZh-Radiotekhnika, No 1, 1972, Abstract No 1D457)

Translation: This instrument is designed for measuring the pulse energy and also the mean radiation power of lasers operating in the free generation mode and in the Q-factor modulation mode. About 9 percent of the transmitted radiation is shunted to the pyroelectric sensor which converts the radiation pulse to a voltage pulse with a duration of several milliseconds and with an amplitude proportional to the radiation pulse energy. The voltage pulse amplitude is measured by a peak volt meter. The measurement time was 2 seconds, and the time between measurements was 15 seconds. The instrument is calibrated by a calorimetric meter. The total error was $(-2 \pm 8)\%$. There are 4 illustrations and a 4-entry bibliography.

1/1

USSR

UDC 537.525

KAGAN, Yu. M., KOKOLOV, N. D., and MILENIN, V. M.

"Electrical and Optical Measurements in Travelling Strata in Neon. II"

Leningrad, Optika i Spektroskopiya, Vol 30, No 2, 1971, pp 209-210

Abstract: The absolute intensities of the 5852, 6074, 5945, 6678, and 6096 Å lines were measured for the $3p^1S_0$, $3p^3P_2$ levels of neon along traveling strata, allowing the number of excitations and number of radiated quanta to be compared for these levels. The measurements indicated that ordinary spectroscopic measurements yield values for line intensities which are equal to the averages and for concentrations of excited atoms which are in many cases near the averages.

1/1

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USSR

UDC: 621.652:669.018.95(088.8)

ARABEY, B. G., BAULIN, Yu. N., ZVEREV, I. I., ZUKHER, M. S., KOKONIN, S. S.,
MARKOV, Yu. M., PORTNOY, K. I., SKLYAROV, N. M., TYURIN, V. A.

"Metal Ceramic Friction Material"

USSR Author's Certificate Number 346373, Filed 15/12/69, Published 18/08/72
(Translated from Referativnyy Zhurnal Metallurgiya, No 8, 1973, Abstract No
8G422P, by S. Krivosova).

Translation: A metal ceramic friction material, for example for braking
devices, is suggested, containing ZrC and B carbide. In order to increase
the stability of the coefficient of friction, B nitride and metals of the Fe
group are introduced to the composition, taken in any combination with the
following ratio of components (in wt. %): B carbide -- 10-50, Fe-group metals,
taken in any combination, 3-35, B nitride 1-5, ZrC -- remainder. The material
suggested has the following properties: s. g. 5.52 g/cm³; coefficient of
friction at braking temperature 600° 0.50-0.55, at 800° 0.45-0.50; stability
of coefficient of friction with specific braking energies 450 kgm/cm² 0.75-
0.88; at 923 kgm/cm² 0.80-0.95; wear with specific braking energies of 450
and 923 kgm/cm², in μ /tori 2-6 and 6-11 respectively; permissible volumetric

1/2

USSR

Arabey, B. G., Baulin, Yu. N., Zverev, I. I., Zukher, M. S., Kokonin, S. S.,
Markov, Yu. M., Portnoy, K. I., Sklyarov, N. M., Tyurin, V. A., USSR Author's
Certificate Number 346373, Filed 15/12/69, Published 18/08/72. (5)

temperature 800°, heat conductivity factor in t/m° at 100° 48.1, 200° 44.0,
400° 35.9, 600° 29.5, 800° 27.3, 1000° 26.4; specific heat capacity (in cal/g°)
at 100° 0.134, 200° 0.136, 400° 0.150, 600° 0.161, 800° 0.169, 1000° 0.184;
tensile strength at 20° 36 kg/mm^2 ; bending strength at 20° 62 kg/mm^2 ; shear
strength at 20° 13.8 kg/mm^2 ; a_H 0.15 kgm/cm^2 .

2/2

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KOKORIN, A.N.

RND / R-960 / 5.11.12

82

Ustov, A. A., A. A. Zhukov, A. N.
Kokora, M. A. Kriehel, and M. Kh.
Shorshorov, "Shift" of critical points
under laser heating of carbon-iron alloys.
FIZKOM, no. 2, 1972, 3-8.

The "shift" of critical points in steel heated by a laser beam is analyzed. Allowance is made for nonuniform distribution of specific heat flux on the metal surface, and hence different volumetric heating rates. Under conditions of rapid heating and cooling rates, as important in micrographic determination of temperature within the metal after cutoff of the laser pulse. Using a theoretical formula, numerical data were obtained for heating rates dt/dr in ShKh15 perlitic steel at various depths z and distances r from the center of a beam spot on the metal surface. Concentration coefficient $k = 80 \text{ cm}^{-2}$ was used in calculations of power density distribution on the surface. The calculated dt/dr versus r plots (Fig. 1) show that, at $q_0 = 0.92 \times 10^8 \text{ W/cm}^2$, $dt/dr =$

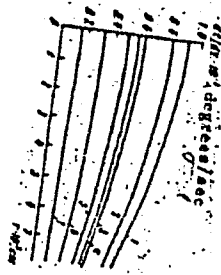


Fig. 1. Heating rate of ShKh15 steel by laser pulses of 0.5 millisecc width, versus r (1) $q_0 = 3 \cdot 10^{-3}$ (1), (2) $1 \cdot 10^{-3}$ (2), (3) $5 \cdot 10^{-3}$ (4), (5) $6 \cdot 10^{-3}$ (6), and $7 \cdot 10^{-3}$ (7).

USSR

UDC 669.017:535.241.4

RYKALIN, N. N., UGLOV, A. A., and KOKORA, A. N., Moscow

"Effect of Laser Radiation on Iron Alloys"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 6, Nov-Dec 72, pp 14-21

Abstract: A study was made on the failure of iron alloys (steels ShKh15, KhVG, Kh12M, and 45) when subjected to laser radiation with a specific force of approximately 10^5 v/cm² on steels. Features of the crystallization zone in the alloys were studied and the principles of impurity distribution and dislocation structure in the irradiated zone were examined. Five figures, 21 bibliographic references.

1/1

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USSR

UDC: 66.05

YUDAYEV, V.F., Candidate of Technical Sciences, KOKOREV, D.T.,
Doctor of Technical Sciences and SOPIN, A.I., Aspirant (Moscow
Institute of Chemical Machine-Building)

"On Determination of Geometric Parameters of Hydrodynamic Siren
Type Devices"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy, Mashinostroyeniye,
No 6, 1972, pp 80-85

Abstract: The present article deals with closed containers in which
pressure pulsations are produced in order to intensify various physical-
chemical processes. The inner wall of the stator container is a cylinder
of radius R , the outer wall is a cylinder of radius $2R$. The rotor is a
cylinder located inside the inner cylinder of the stator. The inner wall

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USSR

YUDAYEV, V. F., et al., Izvestiya Vysshikh Uchebnykh Zavedeniy, Mashinostroyeniye, No 6, 1972, pp 80-85

of the stator and the rotor are provided with slots. The number of rotor slots is a multiple of the number of stator slots.

The liquid is flowing from the rotor to the stator through the overlapping slots. The rotation of the rotor interrupts periodically the flow. If the rotating speed is such that the time between slot openings is less than the time required for a pressure wave to travel the distance $2R$, then a hydraulic hammer takes place and the amplitude of pressure pulsations increases sharply. For a given rotational speed this amplitude is proportional to the flow.

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Masers and Lasers

USSR

UDC 621.039.5.001.4

BEREZOVSKIY, V. V., BYKOVSKIY, YU. A., GRIDIN, V. A., KOKOREV, L. S., SHELAGIN, YU. N.

"Laser Detection of Defects in a Fuel Element Model"

Vopr. teplofiz. yadern. reaktorov -- V sb. (Problems of Thermo-physical Nuclear Reactors -- Collection of Works), vyp. 3, Moscow, Atomizdat Press, 1971, pp 93-100 (from RZh-Teploenergetika, No 9, Sep 71, Abstract No 9U188)

Translation: Utilization of a $\text{CO}_2\text{-N}_2\text{-He}$ gas infrared laser with a wavelength of 10.6 microns is discussed. The parameters of the laser radiation permitted focusing of it on a sufficiently small area ($\sim 0.001 \text{ mm}^2$) and, at the same time, increasing the resolution of the thermal devices. A 6 watt laser beam was used to detect defects (holes in the jacket, exfoliation of the fuel). Exfoliation in the form of a spot of arbitrary shape with a concentrated heat source is investigated. When the laser beam hits the exfoliation region, the jacket temperature rises. The rise in temperature is recorded by a sensor. It is established that with an increase in the beam displacement rate, the necessary power supply increases, the maximum temperature increases, and the requirements on the inertia of the temperature sensor increases. Focusing one kilowatt

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USSR

BEREZOVSKIY, V. V., et al., Vopr. teplofiz. yadern. reaktorov, vyp. 3, Moscow, Atomizdat Press, 1971, pp 93-100

of laser radiation created a field of $3 \cdot 10^5$ watts/cm² over an area of $2 \cdot 10^{-3}$ mm². There are 3 illustrations, 2 tables and a 5-entry bibliography.

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USSR

UDC 621.039.5.001.4

1

BEREZOVSKIY, V. V., BYKOVSKIY, Yu. A., GRIDIN, V. A., KOKOREV, L. S.,
SHELIGIN, Yu. N.

"Flaw Detection on a Fuel Element Model by Means of a Laser"

V sb. Vopr. teplofiz. yadern. reaktorov (Problems in the Thermal Physics
of Nuclear Reactors--collection of works), vyp. 3, Moscow, Atomizdat,
1971, pp 93-100 (from RZh-Elektrotehnika i Energetika, No 9, Sep 71,
Abstract No 9U188)

Translation: The authors discuss the use of an infrared CO₂-N₂-He laser
with a wavelength of 10.6 μ . The parameters of laser emission enabled
focusing on a fairly small area ($\sim 0.001 \text{ mm}^2$), thus improving the reso-
lution of thermal devices. A laser beam with a power of 6 W in the con-
tinuous mode was used to detect flaws (pits in the casing and peeling
of the fuel in nuclear fuel elements). Peeling in the form of a spot of
arbitrary shape with a concentrated heat source is considered. The tem-
perature of the casing rises when the laser beam hits a region where
there is peeling. A pickup determines the temperature rise. It is found

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USSR

BEREZOVSKIY, V. V., et al., Vopr. teplofiz. yadern. reaktorov, vyp. 3, Moscow, Atomizdat, 1971, pp 93-100

that an increase in the rate of beam displacement entails an increase in the required power of the source, a rise in maximum temperature and more severe requirements for the time lag of the temperature pickup. Emission from a laser with a power of 1 kW was focused by a field of $3 \cdot 10^5$ W/cm² on an area of $2 \cdot 10^{-3}$ mm². Three illustrations, two tables, bibliography of five titles. A. M. Bovshovskiy.

2/2

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AA0040674

KOKOREV

P.A.

3

UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent, $\frac{1}{10}$

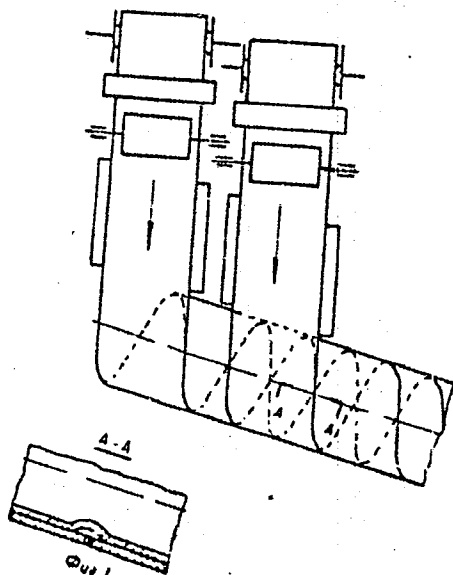
241583 MULTI-LAYER PIPE WELDING was improved by forming a depression under the weld in the lower layer, which is finally straightened after completion of the welding process. This method is applicable to the pipe manufacture with longitudinal and helical welded joints.

12.6.67 as 1163160/25-27. E.I. MIKLASHEV et alia.
URAL SECT. PRODUCTION & TECHNOLOGY RES.INST.(19.69)
Bul 14/18.4.69. Class 21h. Int.Cl.B 23k.

AUTHORS: Miklashevich, Ye. I.; Gur'yanov, G. F.; Ishmayev, O. N.;
Solomonidin, O. V.; Yachmenev, O. N.; Kokorev, P. A.;
and Voropayev, P. D.

$\frac{1}{2}$ Ural'skiy Filial Nauchno - Issledovatel'skogo Instituta
Tekhnologii i Organizatsii Proizvodstva
19750275

AA0040674



19750276

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KOKOREV, V.I.

Automation
System

PROBLEM OF STANDARDIZATION OF ADMINISTRATIVE DOCUMENTATION

[Article by H. I. Tolbuzov, V. I. Kozlov, Candidates of Technical Sciences,

Ural: Institute of Automation, Nizhny, No 3, 1972, pp 33-34]

In order to insure compatibility of automated control systems of various experience of the various branches of the national economy which is common to the system and with regard to service subsystems.

In particular, the factors of successful functioning of automatic control systems is a clearly setup information service.

Improvement of the information service is continuously connected with principles and standardization of them on the basis of standardizing the Some Concepts in the Document Field

The most widespread method of recording information created and used by the administrative agencies is documentation. In our understanding of the word, it is on a special carrier. The majority of administrative documents are now filled out on paper.

The set of documents used when recording the activities of administrative agencies in all spheres of the national economy is the administrative document.

Depending on the purpose, administrative documents can be subdivided into individual systems:

- Planning documentation;
- Accounting-statistical and primary accounting documentation;
- Bookkeeping, financing and primary accounting documentation of the

Biophysics

USSR

KOKORIN, A. I., ZAMARAYEV, K. I., GRIGORYAN, G. L., IVANOV, V. P., and
ROZANTSEV, E. G., Institute of Chemical Physics, Academy of Sciences USSR

"Measuring the Distance Between Paramagnetic Centers in Solid Solutions of
Iminoxyl Radicals, Biradicals, and Spin-Labeled Proteins"

Moscow, Biofizika, No 1, 1972, pp 34-41

Abstract: The purpose of the work was to develop a method for measuring the distance between stable iminoxyl radicals from their ESR spectra and test it on the hemoglobin molecule. The mean distance r between the N and O groups of iminoxyl spin labels was determined from their spectra. The distances between the paramagnetic groups of 11 different iminoxyl biradicals were measured by 3 different methods: (a) from the values of the dipole-dipole separation, (b) from the values of the second central moment of the spectrum, and (c) from the parameter d_1/d (ratio of the total intensity of the extreme components of the spectrum to the intensity of the central component). The values of r determined by the different methods proved to be in good agreement with one another. Measurements of d_1/d showed that the distance between the N and O groups decreased after the denaturation of human hemoglobin spin-labeled at β -93 cysteine and PG-4 histidine. Dipole-dipole interaction was found to

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USSR

KOKORIN, A. I., et al., Biofizika, No 1, 1972, pp 34-41

exist between Fe^{+3} methemoglobin and the unpaired electron of the spin label attached to the SH- β -93 group.

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1/2 016 UNCLASSIFIED PROCESSING DATE--0270T70
TITLE--ELECTRETS FROM POLYMERIC FILMS -U-
AUTHOR--(04)-GUBKIN, A.N., YEGOROVA, T.S., KOKORIN, L.M., ZITSER, N.E.
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ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. POLY(ETHYLENE TEREPHTHALATE) (I) FILMS AND POLY(TETRAFLUOROETHYLENE) (II) FILMS WERE POLARIZED BY HEATING TO 110DEGREES AND 135DEGREES, RESP., IN POLARIZING FIELDS FOR SIMILAR TO 1 HR AND THEN BY ALLOWING THEM TO COOL IN THESE FIELDS TO ROOM TEMP. THE POLARIZATION, MEASURED BY THE RATIO OF THE INDUCED TO THE ORIGINAL CHARGE D., PERSISTED FOR LARGER THAN OR EQUAL TO 8 MONTHS AND LASTED LONGER FOR II THAN FOR I FILMS. THE POLARIZATION AND ITS DURABILITY INCREASED WITH THE FILM THICKNESS AND THE POLARIZING FIELD STRENGTH. WEAK HETEROCHARGING (SIMILAR TO 10 PRIME NEGATIVE COULOMB-CM PRIME²) WAS OBSD. ONLY IN THE CASE OF I FILMS AT SMALLER THAN OR EQUAL TO 50 KV-CM FIELD STRENGTHS. IN THE CASE OF II THE FILMS HAD ONLY CHARGES OF THE SAME SIGN. THE NEW EXPTL. AND THE LITERATURE DATA, GIVEN FOR OTHER ELECTRETS, ARE DISCUSSED IN TERMS OF THE SWAN GUBKIN THEORY.

UNCLASSIFIED

UDC: 669.3'295:539.26

USSR

GANZHULA, N. N., KOKORIN, V. V., CHUISTOV, K. V., Institute of Metal Physics,
Academy of Sciences UkrSSR
"Structure of an Aging Copper-Titanium Alloy"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 36, No 5, Nov 73, pp
1051-1057.

Abstract: X-ray studies, performed using an improved method, are used to determine slight changes in the structure of an aging Cu-Ti alloy. Along with the satellites, additional defects of diffuse scattering are observed in the form of stripes oriented approximately along $\langle 110 \rangle$. The picture of distribution of diffuse intensity is compared with that calculated for the selected model of the distorted lattice of the heterogeneous solid solution. It is assumed that the nature of the diffuse scattering observed is related to the presence of chaotically distributed equiaxial areas with tetragonal lattice. The stable beta phase with the orthorhombic lattice has orientation relationships with the matrix lattices. The results of calculation of the distribution of intensity of diffuse scattering indicate that the additional diffuse stripes experimentally observed near the (h00) and (hk0) reflexes are caused by distortions of the lattice due to formation of

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Ganzhula, N. N., Kokorin, V. V., Chuistov, K. V., Sverdlovsk, Fizika Metallov
i Metallovedeniye, Vol 36, No 5, Nov 73, pp 1051-1057.
areas coherently bonded with the matrix lattice.

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USSR

UDC 669.15'24'295

GORBACH, V. G., KOKORIN, V. V., SAMSONOV, YU. I., and CHUISTOV, F. V.

"Precipitation by Stacking Faults in an Fe-Ni-Ti Alloy"

Moscow, Izvestiya Akademii Nauk SSSR, Metally, No 2, Mar-Apr 72, pp 147-150

Abstract: An Fe-Ni-Ti alloy was selected to investigate stacking fault precipitation. This alloy had the following chemical composition (in wt %): 29.7 Ni, 3.82 Ti, 0.018 C, balance-Fe. The alloy was prepared in an induction furnace, homogenized at 1150°C for eight hours, and then forged (at 1150°C) to an 11 x 11-mm cross section. The produced rods were cut into samples approximately 1 mm and heat treated at different temperatures or in a vacuum or in salt baths and then quenched in water after heating at 1150°C for two hours.

Test results showed that in the aged austenite of the Fe-30 Ni-4 Ti alloy there are helicoidal dislocations and stacking faults of a vacancy nature. Diffraction contrast analysis revealed that the stacking faults were of the subtraction type. Also a new mechanism of precipitation (heterogeneous precipitation by stacking faults) was detected for the Fe-Ni-Ti alloy and it was assumed that the equilibrium η -phase (Ni₃Ti) is the precipitation phase in the given case. Three figures, 16 bibliographic references.

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USSR

UDC 612.821

KOKORINA, E. P.

"Evaluating the Primary Traits of Nerve Processes According to the Results of Certain Functional Tests"

Leningrad, Metodiki Otsenki Svoystv Vysshey Nervnoy Deyatel'nosti, "Nauka," 1971, pp 26-56

Abstract: A procedure is proposed for quantitative evaluation of the primary traits and type of higher nervous activity during a comparison of the results of several functional tests. This procedure makes it possible to unify the approach to evaluating each of the primary traits of nerve processes with due regard for the significance of basic and supplementary indicators. This procedure has been used to evaluate the primary traits and type of 117 cows and calves. Through correlation analysis, functional tests were selected which make it possible to describe the primary traits of the higher nervous activity of this type of animal with sufficient precision. Among cows, representatives of all basic types of higher nervous activity were discovered: 28.6 percent strongly balanced and mobile, 32.8 percent strongly unbalanced, 14.3 percent strongly balanced and inert, and 24.3 percent weak. The parameters of the primary traits of nerve processes for each type are given. Three illustrations, 11 tables, and 34 bibliographic entries.

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USSR

UDC 547.242

GATILOV, Yu. F., IONOV, L. B., KOROVYAKOV, A. P., and KOKORINA, L. G., Kazan'
Pedagogical Institute and Udmurt State University

"Synthesis and Some Reactions of Tertiary Asymmetric Cyanoarsines"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 12, Dec 73, pp 2677-
2681

Abstract: Several novel asymmetric tertiary cyanoarsines have been synthesized. For example, ethyl-p-tolylchloroarsine in acetone solution after a 2 hr refluxing with potassium cyanide in water yields ethyl-p-tolylcyanoarsine, b.p. 113°/2 mm, d_4^{20} 1.2693, n_D^{20} 1.5652. The products could be oxidized to respective oxides: heating the nitrile of alkylarylarsineformic acid with hydrogen peroxide yields the corresponding oxide, without affecting the aromatic substituent. To oxidize the methyl group on the phenyl substituent, aqueous potassium permanganate must be used.

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Microbiology

UDC 576.315.48/.49.097.29

USSR

KAMZOLKINA, N. B., EPSHTEIN-LITVAK, R. V., and KOKORINA, T. A., Microbiology Department, Moscow Scientific Research Institute of Epidemiology and Microbiology

"Neurotoxins of Intestinal Bacteria"

Moscow, Byulleten Eksperimentalnoy Biologii i Meditsiny, Vol 71, No 2, Feb 71, pp 70-73

Abstract: The antigenic structure of neurotoxins obtained from dysentery bacteria was studied. Some biological properties of neurotoxins which distinguish them from the corresponding endotoxins were also studied. Intravenous injection of the neurotoxins and of serologically nontypable cultures of E. coli produced hypothermia symptoms in laboratory animals (guinea pigs and rabbits) and pareses and paralyzes of the extremities (mainly in rabbits). Injection of E. coli neurotoxins into the lumen of an isolated loop of the small intestine in a fasting rabbit produced dilatation of the segment with reduced serous-hemorrhagic effusion as well as numerous hemorrhages in the mucous membranes of the segment. The complex antigenic structure of the neurotoxins was demonstrated in a serological study. All neurotoxins of

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KAMZOLKINA, N. B., et al, Byulleten Eksperimentalnoy Biologii i Meditsiny, Vol 71, No 2, Feb 71, pp 70-73

dysentery and typhoid bacteria contained specific components of the corresponding endotoxins in their structure, as was demonstrated in the agar precipitation reaction of corresponding anti sera with homologous Boivin endotoxins or endotoxins obtained from autolysate cultures. The neurotoxins also contained the antigens usually found with Shigella, Salmonella, and Escherichia. Vi- and H-antigens were found in the neurotoxins of typhoid strains. Several neurotoxins obtained from fresh hemolysing strains contained hemolysin, which was recognized by its action on human erythrocytes.

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